Abstract

The aim is to investigate whether the distal femoral cartilage (DFC), Achilles tendon (AT) and plantar fascia (PF) were different between healthy young women wearing high-heel shoes (HHS) (> 5 cm) and flat shoes (< 1.4 cm). Measurements from aforementioned structures were obtained by using ultrasound. There were 910 measurement parameters analyzed in total. There were 34 women in the HHS group (mean age 31.1±6.4 years; BMI 21.6 ± 2.3 kg/m^2) and 57 women in the control group (mean age; 29.5 ± 7.3 years; BMI 22.5 ± 3.4 kg/m^2). Wearing HHS resulted in thickening of the right medial DFC (2.00 ± 0.41 mm) and left AT (4.07 ± 0.48 mm) in women wearing HHS compared to flat shoes (1.96 ± 0.35 mm, 3.76 ± 0.66 mm, respectively). This might be interpreted as secondary to chronic overload. PF thicknesses were similar both within and between group.

Our findings have shown significant thickening of the right medial DFC and left AT in women wearing HHS and these changes might be interpreted as secondary to chronic overload. Further follow-up studies are definitely awaited to provide a better insight into understanding the musculoskeletal consequences of this "social" issue ever-existing in ladies lives.

The secondary aim of the thesis comprises two case reports: 1. the first is describing the usefulness of MSK US in a case of bilateral rectus femoris muscle rupture following atorvastatin medication, 2. the second is pertaining to the US diagnosis of sciatic nerve schwannoma in the gluteal region.

Key words: musculoskeletal ultrasound, high-heeled shoes, distal femoral cartilage, Achilles tendon, plantar fascia